Complete Summary

GUIDELINE TITLE

Antibiotic prophylaxis for gynecologic procedures.

BIBLIOGRAPHIC SOURCE(S)

American College of Obstetricians and Gynecologists (ACOG). Antibiotic prophylaxis for gynecologic procedures. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2001 Jan. 9 p. (ACOG practice bulletin; no. 23). [38 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Antibiotic prophylaxis for gynecologic procedures. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 1997 Jun. (Educational Bulletin Number 237).

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Pelvic inflammatory disease
- Endometritis
- Operative-site infection
- Bacterial vaginosis
- Bacterial endocarditis
- Bacteriuria

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Cardiology
Obstetrics and Gynecology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To aid practitioners in making decisions about appropriate obstetric and gynecologic care
- To review the evidence of appropriate antibiotic prophylaxis for gynecologic surgery and other procedures

TARGET POPULATION

Women undergoing gynecologic surgery and other procedures

INTERVENTIONS AND PRACTICES CONSIDERED

Prevention

1. Antibiotic prophylaxis for the following gynecologic procedures:
    - Vaginal/abdominal hysterectomy – cefazolin, cefoxitin, cefotetan, metronidazole
    - Hysterosalpingogram demonstrating dilated tubes – doxycycline
    - Induced abortion/dilation and curettage – doxycycline, metronidazole
    - Preoperative bowel preparation – cefotetan, cefoxitin
    - Endocarditis prophylaxis – ampicillin plus gentamicin for high-risk patients (vancomycin plus gentamicin in patients allergic to ampicillin/amoxicillin); amoxicillin or ampicillin for moderate-risk patients (vancomycin in patients allergic to ampicillin/amoxicillin)

MAJOR OUTCOMES CONSIDERED

- Rates of infection in gynecologic procedures
- Cost-effectiveness of antibiotic prophylaxis in women undergoing gynecologic procedures

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The MEDLINE database, the Cochrane Library, and American College of Obstetricians and Gynecologists' (ACOG's) own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1985 and May 2000. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document.

Guidelines published by organizations or institutions such as the National Institutes of Health and the American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force:

I Evidence obtained from at least one properly designed randomized controlled trial

II-1 Evidence obtained from well-designed controlled trials without randomization

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of Recommendations" field regarding Grade C recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

COST ANALYSIS

A 1983 study found an average net savings of $102 per patient in women undergoing hysterectomy who received prophylactic antibiotics. This savings would be eroded by use of the more expensive cephalosporins unless they were considerably more effective than cefazolin or cefotetan. Likewise, the inexpensive prophylactic regimens used for the prevention of postabortal pelvic inflammatory disease are cost-effective. It is estimated that more than $500,000 would be saved each year in the United States in direct treatment costs alone by providing antibiotic prophylaxis to women at average risk undergoing induced abortion.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists, generalists and subspecialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of "Major Recommendations" field.

The following recommendations are based on good and consistent scientific evidence (Level A):

- Patients undergoing hysterectomy should receive antimicrobial prophylaxis.
- Pelvic inflammatory disease (PID) complicating intrauterine device (IUD) insertion is uncommon. The cost-effectiveness of screening for gonorrhea and chlamydia before insertion is unclear; in women screened and found to be negative, prophylactic antibiotics appear to provide no benefit.
- Women undergoing surgically induced abortion are candidates for antibiotic prophylaxis.
- Appropriate prophylaxis for women undergoing surgery that may involve the bowel includes a mechanical bowel preparation with or without oral antibiotics and the use of a broad-spectrum parenteral antibiotic, given preoperatively.

The following recommendations are based on limited or inconsistent scientific evidence (Level B):

- In patients with no history of pelvic infection, hysterosalpingography (HSG) can be performed without prophylactic antibiotics. If HSG demonstrates dilated tubes, antibiotic prophylaxis should be given to reduce the incidence of post-HSG PID.
- Routine antibiotic prophylaxis is not recommended in patients undergoing hysteroscopic surgery.
- Cephalosporin antibiotics may be used for antimicrobial prophylaxis in women with a history of penicillin allergy not manifested by an immediate hypersensitivity reaction.

The following recommendations are based primarily on consensus and expert opinion (Level C):

- Antibiotic prophylaxis is not recommended in patients undergoing exploratory laparotomy or diagnostic laparoscopy.
- Use of antibiotic prophylaxis with saline infusion sonography should be based on clinical considerations, including individual risk factors.
- Patients with high- and moderate-risk structural cardiac defects undergoing certain surgical procedures may benefit from antimicrobial prophylaxis.
- Patients with a history of anaphylactic reactions to penicillin should not receive cephalosporins.

- Pretest screening for bacteriuria or urinary tract infection by urine culture or urinalysis, or both, is recommended in women undergoing urodynamic testing. Those with positive results should be given antibiotic treatment.

Definitions:

Grades of Evidence

I Evidence obtained from at least one properly designed randomized controlled trial

II-1 Evidence obtained from well-designed controlled trials without randomization

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

Levels of Recommendation

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate use of antibiotic prophylaxis

POTENTIAL HARMS

Adverse Effects of Antibiotics

- Allergic reactions (from minor skin rashes to anaphylaxis)
- Pseudomembranous colitis
- Diarrhea
- Induction of bacterial resistance

QUALIFYING STATEMENTS

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These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Jan

GUIDELINE DEVELOPER(S)

American College of Obstetricians and Gynecologists - Medical Specialty Society

SOURCE(S) OF FUNDING

American College of Obstetricians and Gynecologists (ACOG)

GUIDELINE COMMITTEE

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Gynecology

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 4500, Kearneysville, WV 25430-4500; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on September 21, 2004. The information was verified by the guideline developer on December 9, 2004.

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